

2 **IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

3 **UTILITY PATENT APPLICATION**

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5 INVENTOR: Alma Johnson Gulsby

6 TITLE: Seam Gauge

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8 PREPARED BY: Gregory M. Friedlander

9 **GREGORY M. FRIEDLANDER & ASSOCIATES, P.C.**

10 **Attorneys at Law**

11 **11 South Florida Street**

12 **Mobile, Alabama 36606-1934**

13 **Phone (251) 470-0303**

14 **Fax (251) 470-0305**

15 **E-Mail: lsee3@aol.com**

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17 **PRIORITY:**

18 This patent claims priority in U.S. Provisional Patent No. 60/450,833 filed 02/28/2003

19 to Alma Johnson Gulsby.

20 **BACKGROUND OF INVENTION**

21 **FIELD OF INVENTION**

22 The invention applies to sewing aids. More specifically the invention applies to devices
23 for setting corded piping a desired spacing.

24 **PRIOR ART**

25 Corded piping historically is made when a strip of fabric is cut wide to cover the filler
26 cord (or cords) and extending long enough to allow the seam allowance and trim waste. The
27 fabric is then folded in half by the longest dimension and the filler cord is inserted in the fold. It
28 is then sewn by the machine, usually immediately adjacent to the cord. Trimming or grading the
29 seam to the seam width desired is accomplished by one or two prior art methods typically.

1 After making the corded piping, one has to measure and mark the seam allowance by
2 using scissors to cut along the marked line cutting off the excess fabric. This is the most accurate
3 prior art way to make corded bias piping.

4 Another method is to cut the fabric twice the width of the finished seam allowance plus
5 the diameter of the filler cord used to make the piping. When sewing with this method, it is
6 necessary to be very careful to make sure the cut edges of the fabric are lined exactly and that
7 one knows exactly the diameter of the filler cord. The method can only be used when making
8 piping with fabric cut on the straight of the grain. This is not an accurate method to use when
9 making bias corded piping because the fabric stretches, becoming narrower after it is assembled
10 when sewing in the cord and thereby losing the accuracy of the seam allowance.

11 GENERAL DISCUSSION OF THE INVENTION

12 Corded piping or sew cords are decorative fabric covered cord sewn into or adjacent to
13 a seam. Corded piping is a fabric covered cord which typically has a seam allowance attached
14 for purposes of sewing it together with an outfit. The cord is used as a filler to make a rounded
15 ridge at the fold of the fabric; and this fold allows for the cord to be held within the corded piping
16 or sew cord.

17 There are several types of corded piping. One is bias piping. Bias fabric strips are cut on
18 a forty-five degree angle to the fabric straight of grain. Bias piping is flexible, allowing it to be
19 sewn around curves and remain flat.

20 The second basic type of corded piping is straight of grain piping. Fabric strips are cut on
21 fabric straight of grain. Straight of the grain piping is not flexible. It cannot be sewn around
22 curves. It is used on straight edges when a non stretch edge is needed for durability.

23 There are several reasons to use piping. Piping is used to accent seams and or stiffen

1 edges. It adds a fashionable and inexpensive accent to seams. Corded piping can be added to any
2 edge where seams are joined. To add durability, corded piping will help hold an over stuffed
3 cushion together. Upholstered boat seats are over stuffed and tufted in a diamond tuck and roll
4 configuration for comfort and durability. Adding corded piping helps prevent the stuffing from
5 migrating and maintains cushion shape. Upholstered chair and couch cushions benefit when
6 corded piping is used in edge seams to make the edges crisp and help to prevent the cover from
7 shifting keeping the cushion neat and adding durability and strength to the edges.

8 Piping is used on clothing, upholstery, home decorations, fashion accessories, car and boat
9 seats, and mattresses as examples. In garment construction corded piping is used to accent seams.
10 Corded piping is used in garment construction when the edge of a garment needs to be turned
11 with a sharp finish as in a collar or lapel of a jacket or coat or when pattern pieces are joined and
12 corded piping is inserted in the seam as part of the overall design. In upholstery piping is used
13 to define the edges of furniture detail and stiffen cushion edges. In home decorations corded
14 piping is used in window valances, decorative cushions, quilts, duvets, etc. It can also be used on
15 purses and shoes in order to add strength, support or for decorative purposes.

16 Piping can be relatively inexpensive to make, but it can be time consuming unless there
17 is a way to adjust the seam allowances properly.

18 It is a desirable accent as it provides visual and dimensional texture. Piping can be made
19 of the same fabric as the project or a complimentary color. It can be made with the same
20 allowance to equal the seam allowances of the pattern pieces. It can be an easy method of
21 modifying existing patterns.

22 The only piping made available to the home seamstress is made of stiff fabric with a 1/4
23 seam allowance in limited colors. By allowing for the manufacture of seam allowances by the

1 seamstress, or tailor a great deal more variety is allowed.

2 If patterns may be used with a seam allowance of other than 1/4 inch. All pattern pieces
3 or piping used must be trimmed to a 1/4 inch which is one reason why it is difficult to make
4 assemblies with of the shelf seam allowance materials. If the seam allowance is not trimmed one
5 must measure the distance when sewing the piping to the pattern piece which is an extremely time
6 consuming and inaccurate method of putting together patterns.

7 When all the elements of a garment or upholstery are assembled, unless one maintains an
8 accurate seam allowance, the pieces which make up the project will not fit together correctly.
9 The present device is made to be used with a rotary cutter 60 preferably which has a sharp edge
10 57 and a roller 61 where the roller can move along the edge 8 of the seam gauge 7. Alternatively,
11 a mark can be made along the line defined by the edge 8 of the seam gauge. The invention is used
12 by cutting fabric for piping using a chart for approximate fabric width. Fabric width does not have
13 to be exact. Extra seam width is needed for trimming.

14 The wider the seam width, the better, for an easier trim. For a minimum seam allowances,
15 a 1/4 inch seam should be cut 1 and 1/4 inch wide, a 1/2 inch seam should be cut 2 inches wide,
16 a 3/8 inch seam should be cut 2 inches wide, and a 5/8 inch seam should be cut 2 and 1/2 inches
17 wide.

18 Once the cord is in place, the user will place the piping on the cutting mat and align the
19 groove of the seam gauge for the desired seam allowance over the piping. Typically the piping
20 seam allowance is cut from the bottom to the top although the direction of the cut is largely
21 discretionary.

22 The user continues cutting the open perimeter marking if it is going to be marked, for
23 later cutting, and sliding the seam gauge along the piping cord.

1 It is also helpful to spray starch thin, soft or silky fabric before cutting bias strips.
2 Starching stabilizes the bias. Where starch is not used, it is helpful to cut the strips 1 inch wider
3 than the suggested width. It is a good idea to stretch the fabric as the piping is sewn. Stretching
4 helps to make a snug fit to prevent wrinkles from fabric shifting when sewing the piping. Fabric
5 edges do not have to be even before trimming, but at least one fabric layer should be wide enough
6 for trimming to the desired seam width. This stretching is easier because the piping holds the sew
7 cord while it is stretched and stitched in certain embodiments. It can be helpful to use an
8 adjustable zipper foot to move the needle close to the inside curve and the zipper foot. Using a
9 3mm to 3.5mm stitch length the user can stitch the bias around the cord. There should be a little
10 ease between the stitching line and the cord. When attaching (basting) piping to the project, the
11 same stitching line can be used. The machine needle is moved closer to the edge of the foot when
12 sewing the final seam. The original stitching should be enclosed within the seam allowance.

13 It is therefore a purpose to provide a seam guide for holding seam and piping for later
14 attachment. A further purpose of this is to provided for faster, more accurate seam allowance
15 cutting and also to allow for a choice of multiple seam allowances.

16 These and other objects and advantages of the invention will become better understood
17 hereinafter from a consideration of the specification with reference to the accompanying drawings
18 forming part thereof, and in which like numerals correspond to parts throughout the several
19 views of the invention.

20 BRIEF DESCRIPTION OF THE DRAWINGS

21 For a further understanding of the nature and objects of the present invention, reference
22 should be made to the following detailed description taken in conjunction with the accompanying
23 drawings in which like parts are given like reference numerals and wherein:

1 Figure 1 shows a front view the front cross sectional view of the preferred embodiment.

2 Figure 2 shows a top view of the embodiment showed in figure 1.

3 Figure 3 shows side cross sectional view of one alternate embodiment.

4 Figure 3a shows a close up of the embodiment of figure 3.

5 Figure 4 shows a top view of an alternate embodiment.

6 Figure 4a shows the use of two rollers for moving material in conjunction with the
7 embodiment shown in Figure 4.

8 Figure 4b shows the mechanized use.

9 Figure 5 shows a side cross sectional view of a alterative embodiment.

10 Figure 6 shows examples of how piping is used.

11 Figure 7 shows a side view of another alternate embodiment showing the movement of
12 a rotary cutter in conjunction with the product.

13 Figure 8 is a top view with a section of piping.

14 Figure 9 is an x-section of the piping shown in Figure 8 through the 9-9 axis.

15 Figure 10 shows an alternate embodiment where a presser foot is modified to embody the
16 invention.

17 DETAILED DESCRIPTION OF THE PREFERRED EXEMPLARY EMBODIMENTS

18 Referring to Figure 1, it can be seen that the product comprises a base 15 which may have
19 a handle 16 or an indention 17 as shown in Figure 7 for a hand or finger to grip or as an
20 attachment means for attaching the product to a machine as shown in Figure 5.

21 This base 15 has a top surface 18 where the handle or indention may be provided for and
22 also has a bottom surface 19 along the base 15 which defines, in this embodiment, four separate
23 notches 21, 22, 23, and 24 which preferably have a width which is approximately equal to the

1 width 30 of the sew cord 6 which would fit into the particular notch, here notch 22 in Figure 3.
2 Inserts 31 as shown in Figure 7 may be used in order to reduce the diameter of the notches (here
3 notch 22) where smaller sew cords might be incorporated into the product.

4 On the edge or side 33 of the base is a reduced depth section 29 which allows for an edge
5 of a cutting knife or for the users hand to move along the top section 32 of this reduced depth
6 section 29 so that a straight cut can be made utilizing the sharp right angle straight side 33
7 between the reduced section top 32 and the base 15. A second reduced depth section 29a is
8 available on the other side as well, so that more seam allowance dimensions may be allowed than
9 would be possible if only a left side or a right side was available.

10 In this case, the seam allowances (and hence the distances from the notches to the edges)
11 on the left are a 1/4" - 3/8" and on the right are 1/2" and 1", although it is obvious that metric
12 measurements and slightly different measurements could be utilized without departing from the
13 invention concept embodied herein.

14 The particular invention which is shown in Figure 1 allows for the seam cord to be
15 continuously cut along any length of material. In the preferred embodiment the invention is cut
16 into a body 49 which is preferably of a clear and cuttable material (plastics work well) which is
17 carved to provide a plurality of notches 21-24 running the length of body 49 through which the
18 cord may run and against the edges 33 of the body and be a cut with a blade 51.

19 The length of the seam allowance 5 is crucial in the construction when the sew cord 6
20 comprised of cord 1 and fold 2 is attached to the base material 11 with base stitches 12 in order
21 to obtain the desired overall effect.

22 The prior art is full of examples of various locations where a sew cord is utilized in
23 connection with an outfit. In some cases, joined sew cords 8 are utilized in order to obtain a

1 particular effect.

2 In all these cases, the seam allowance 5 is critical in the overall appearance of the item.

3 Another improvement is where two separate sew cords 6 are provided and previously
4 attached at attachment points and in this case one is lower than the next by virtue of the design.
5 In order to accommodate this, instead of two adjacent notches, there is a double notch 36 as
6 shown in Figures 3, 3a and 7 for the larger sew cord 38 and which defines a smaller adjoining
7 notch for the smaller sew cord 40 so that one product may be made with two (or more) sew cords
8 in Figure 3a.

9 In the embodiments shown in Figure 3a there is a step down between the sew cord 38 and
10 the cord 40 defined by step 35. There may be other steps with more sew cords which is not
11 required. This allows a longer sew cord 38 and smaller sew cord 40 at stitch 39 to fit and be held
12 together tightly in a single notch. This allows a tapering off of one sew cord while the other is
13 more tightly held.

14 This is the most simple embodiment. Figure 4 shows how this may be used with a
15 sewing slot 10 or cutout 47 as shown in Figure 4a which allows for the material to be
16 simultaneously stitched through stitch slot 10 and cut simultaneously. Many prior art sewing
17 machines incorporate a scissors type cutter for the cutting portion. The blade 9 is shown beside
18 the point to be cut since the particular method of providing a cutting blade is in use in the prior
19 art as a part of sewing machines.

20 Where this is attached to a sewing machine presser foot post 43, there may be multiple
21 locations, holes 14, for receiving the post 43 as shown in Figure 4 so that the location of the edges
22 of the body relative to the needle 70 and any scissors 9a built into the sewing machine may be
23 adjusted by varying the hole 14 used for attaching the post 43. Alternatively, the post 43 may be

1 movable relative to the needle 70 or relative to any scissors 9a (as shown in Figure 5) which are
2 a prior art part of sewing machines and typically come out of the sewing machine floor 45.

3 As can be seen by reference to the embodiment in Figure 4a one step in mechanizing the
4 process is to provide a slot and in this embodiment the cord is placed within the fold and this
5 combination is then stuck into the notch and beside the notch is an open slot 10 or cutout 47
6 through which a sewing needle 70 (shown in Figure 4b) can pass so that the sew cord is sewn in
7 place as the cloth 3 moved along it's length. A cutting blade 9 is also available on the edge 8 so
8 as it is sewn in place, the cuts can be made simultaneously or immediately following the step of
9 stitching the cord within the cloth, here depending on needle placement with in the slot 10.

10 Rollers 68 and 69 may grip the cloth and pull it from the back 53 of the gauge 7 where
11 the notch 22 may widen to help feed the sew cord 6 to the front where excess cloth 55 is cut away
12 leaving the seam allowances.

13 Figure 4b shows where a sewing needle 70 may stitch the sew cord together before, after
14 or during the cutting step. Cutting blade 9 may be engaged or disengaged using piston arm 73
15 behind the pivot 74 on the back 48 of the blade 9 so that the blade is moved around pivot 74
16 releasing or engaging the cloth 8 so that the cloth is not spaced by the cutting blade such as
17 scissor cut or existing machines. A closer cut may be provided by blade 51 on piston 71 being
18 pushed through opening 50. Blade 51 may be replaced with a second needle to stitch material
19 together after or during the cutting process to have the sew cord attached during the automated
20 process or with a marking pin to mark the location of a later cut to provide an even seam
21 allowances. The location of the opening 10 can be closer or farther from the fold and the location
22 shown is illustrative only. As shown in Figure 4b in one embodiment there are holes where
23 screws 19 may be inserted in order to a fix the base over a cutting surface 37 or to a sewing

1 machine in order to allow the devise to be fixed in place and to slide the material between rollers
2 68 and 69 so that the piping and stitching and cutting may all be preformed simultaneously using
3 automated equipment.

4 In this case rather than sliding the guide over piping the piping would be slid under the
5 guide and the ends of the seam guide may be curved or smoothed in order to prevent the material
6 from catching and in order to allow a smooth cut.

7 The seam allowance 5 is importance because if it is not perfect, then the pieces of the
8 outfit will not fit together perfectly and in more advanced outfits and more advanced other
9 products utilizing sew cords numerous seams may be used in a single product for structural
10 purposes, effect or both.

11 Hand marking along the length is inadequate and seams must be made in different lengths
12 of material. Hence, while in the most simple embodiment, only one seam allowance would be
13 provided for, there are at least four different seam allowance measurements desirable in the
14 preferred embodiment made possible by the four notches 20-24 and their distance from one edge
15 33 of the body 49. While historically seam allowances have been defined using a mark from the
16 completed sew cord (the combination of the cord and the fold), from which the edge 52 of the
17 seam allowance 5 may be cut, as shown in Figures 3 and 7 a blade may do this along the edge 33
18 of the body 49.

19 Figure 6 shows piping on a pillow 56 where there is a sew cord sewn to the pillow around
20 the edge held by a base stitch and a second sew cord 6 going across the face of the pillow held
21 by a second base stitch 12.

22 Figure 7 shows how the cutting blade 9 may be positioned against edge 8. The users hand
23 (not shown) may move along this reduced edge holding the cutting knife in place so that a straight

1 cut is made along the seam allowance or, wheels or the hand may roll or move against wall 13.

2 As can best be seen by reference to Figures 8 and 9, in sewing a cord 1 utilized within a
3 fold 2 of a cloth 3 and is held in place by a plurality of cord stitches 4. The length of this cord
4 is defined by the user and may be of any length desired.

5 As can best be seen by reference to Figure 10, a presser foot 42, incorporating the features
6 of the invention discussed above, may be specially designed in order to incorporate the invention
7 herein where the presser foot is attached to a presser foot post 43 with the needle 70 going up and
8 down beside it being attached to needle post 44. The attachment of the needle post 44 and foot
9 post 43 to the sewing machine is known in the prior art and is not a part of the invention. As is
10 well known in the prior art the presser foot 42 presses cloth 3 between the foot 42 and the floor
11 45 of the sewing machine. Here, the tooth dogs 46, also known in the prior art, move the cloth
12 3 forward after each stitch by needle 70.

13 The device is an aid for preparing seam allowances in a seam cloth having a thin side
14 forming a seam allowances which has an end which is free and an end which folds over to cover
15 a cord and is sewn together to form an expanded sew cord.

16 In practice, the finished sew cord is used with a stitching machine, typically a sewing
17 machine, that stitches free end into a fold in the base cloth.

18 The simple embodiments show a holding means, here the notched body, for mechanically
19 holding the seam cord on at least two (three) sides within the notch while allowing the seam cord
20 to move from the front to back of the body.

21 The distance between the notch and the edge forms a measuring means for measuring
22 the end of the seam allowance.

23 At least one cutting blade, two in the case scissors are used, may be used in conjunction

1 with the invention, particularly in the embodiment shown in Figure 10, where the stitching means
2 (sewing machine) may have scissors built in. In this case or in the case of a stepped edge, the
3 cutting means forms an aligning means for aligning the cutting blade with the seam allowance.

4 The notch is approximately the same size as the sew cord so that it frictionally holds the
5 sew cord and hence different size notches may be provided for different size sew cords.

6 As is shown in the preferred embodiments, the base defines a plurality of notches which
7 are at different distances from the edges to allow for different seam allowances, preferably 1/4"
8 and 3/8" from the left edge and 1/2" and 1" from the right edge.

9 To follow the cloth as it moves through the notch, the body is transparent in the preferred
10 embodiment and is made of plexiglass or other suitable plastic material.

11 The alternative designs allowing the seam allowance to be cut as the cloth feeds through
12 the notch may provide that the cutting means is at least one blade attached to the
13 holding means, here the body through a notch or the cutting means is at least one blade attached
14 to the stitching machine. In the preferred embodiment, where the cloth is cut by hand, the blade
15 is guided by the same edge that marks the end of the length of the seam allowance.

16 While in the preferred embodiment the individual feeds the cloth forward by sliding the
17 body over the sew cord, in other embodiments the sewing machine would have a tooth
18 dog for feeding the cloth forward through the holding means as the cloth is fed through the
19 sewing machine. In such as case, the foot post of the sewing machine may be used to holding
20 the body in place relative to the scissors or needle of the sewing machine or both. In such a case,
21 the mounting of the body would have to be varied or several different bodies would have to be
22 provided to provide for different seam allowances. All of these embodiments, described
23 generally in Figure 10, are significantly different from the simplified notched body with stepped

1 edges taught in the preferred embodiment.

2 The invention may be described as a process utilizing the product so described wherein
3 the process is one for producing seam allowances comprising the steps of holding the sew cord
4 below a body having a length and a width, said defining a notch along the length of the body so
5 that the sew cord is held within the notch; moving the sew cord forward along within the notch;
6 cutting the seam cloth at the seam allowance from the edge of the body; and wherein the step of
7 cutting comprises the step of cutting the seam allowance at the edge of the body.

8 With a sewing machine process, the process may include the steps of simultaneously
9 cutting the seam allowance and sewing the cord within a fold of the seam allowance cloth or
10 sequentially sewing the cord within a fold of the seam allowance cloth and cutting the edge of the
11 seam allowance and sequentially sewing the seam allowance within a fold of the base material.
12 Where the excess seam cloth is cut away, the process may even sequentially include the step of
13 feeding the seam allowance and base cloth between stitching a feeder means.

14 Because many varying and different embodiments may be made within the scope of the
15 inventive concept herein taught and because many modifications may be made in the
16 embodiment(s) herein detailed in accordance with the descriptive requirements of the law, it is
17 to be understood that the details herein are to be interpreted as illustrative and not in a limiting
18 sense.